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NOTES ON CLIMATOLOGY.

BY

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ACCLIMATIZATION OF THE WHITE MAN IN THE TROPICS.—In a recent number of this BULLETIN reference was made in these *Notes* to the question of the acclimatization of the white race in the tropics, and it was stated to be the opinion of the great majority of those who have studied this matter most carefully that complete acclimatization is impossible. Since the publication of that note there have been some further contributions to the discussion, which deserve mention here because of the authorities from which they come. The *Indian Medical Record*, in a recent article, holds to the belief that the acclimatization of the white race in the tropics is impossible. It maintains that the lowered death-rate often noted in hot countries is not an evidence to the contrary, because this lowered rate is the result of the most elaborate precautions taken to preserve health and to ward off the effects of the climate. The *Medical Record* claims that a reduced death-rate directly due to the careful avoidance of every possible exposure is an evidence that such exposure cannot be endured.

At the request of the compiler of these *Notes*, the editor of the *Lancet*, the leading medical journal in the world, has very kindly written an editorial setting forth the present state of feeling among British medical men on this question of acclimatization. In the issue of the *Lancet* for May 27 last it is stated (p. 1440):

“That residence in hot climates under the circumstances of ordinary life has an adverse effect upon Europeans cannot, we think, be doubted. Some constitutions seem to be altogether unfitted for these climates, and such individuals lose their health and physical energy from the moment of their arrival. A still larger number do so sooner or later under a more protracted residence, even if they escape being attacked by one or other of the endemic or epidemic diseases incidental to such climates.”

Further, in the *Lancet* for June 3, the following guarded statement is made, which tallies with the opinion of the majority of writers upon this question, already referred to:

“We cannot doubt that a large majority of persons of sound and healthy constitution, living amidst sanitary surroundings and not eating, drinking and clothing themselves in a way directly opposed to the requirements of the climate, as many do, might

enjoy a far larger amount of health in most climates than has fallen to their lot up to the present time."

Regarding the deterioration of the white race as the result of long residence in a tropical climate, the *United Service Gazette* (London) says in a recent issue:

"It is an undoubted fact that the Australasian of two generations is ever on the verge of decadence if new blood is not forthcoming from the mother country. The Anglo-Indian, too, born in that great dependency, though of pure British blood, is very inferior in that energy and virility which mark the Anglo-Saxon race as we know it at home. In South Africa, where at least a better climate is attainable, a stationary population, unfed from home, will certainly degenerate. . . . The British race is waning, while local and colonial races are gradually clogging the once busy cogs of British commerce. The very mines of Australia are evidence of the lethargic nature of the foreign-born colonial. The problem is one which is capable of but one solution. The nation or the colony must recognize the danger, and must find means to attract the inrush of young Britons and their brides before the sleep of exhaustion falls upon any part of Britain beyond the seas."

The same note which is struck in the preceding quotation sounds again, with a more hopeful strain, in an article in the *Quarterly Review* for last July. Writing on the subject of climate and colonization, a contributor to that magazine speaks as follows:

"Europeans who settle in tropical countries must not expect to remain unchanged from generation to generation. Even where there is no intercrossing, although the main features may persist for a long while, the new surroundings gradually give their own impress. In all countries where Europeans have settled, we find they have altered in temperament, ideas and bodily features. . . . We have no reason to dread this evolution; it is the outcome of adaptation. . . . When we . . . consider that man, modifying the environment and substituting his selection for that of nature, has been able to produce and to develop endless varieties of domestic animals which would never have come into existence under natural conditions, and would soon deteriorate or perish when out of their artificial surroundings, we may certainly believe that he can, by taking thought, escape many of those detrimental influences which irresistibly modify all other organic beings."

PERUVIAN METEOROLOGY.—The attention of astronomers has of late often been turned towards Peru, where the wonderful results obtained at the southern station of the Harvard College Observatory, at Arequipa, have laid renewed emphasis upon the importance of favorable meteorological conditions in astronomical work. The interest thus naturally aroused in the extraordinary climate of southern Peru, where the Arequipa Observatory is situated, has led astronomers, as well as meteorologists, to await with some impatience the publication of the volume on Peruvian meteorology which the Harvard College Observatory promised some time ago. It is perfectly safe to say that no publication in recent years has been

awaited with greater interest among meteorologists the world over than this one. The volume, which bears the title *Peruvian Meteorology, 1888-1890* (Annals Astronom. Obs. Harv. Coll., Vol. XXXIX, Part I), includes the preliminary observations made at Mollendo, Arequipa, Vincocaya, Puno and Chosica, in Peru, and a few made at Pampa Central, in Chili. Of these stations Mollendo is on the sea coast (alt. 80 ft.); Arequipa is at a distance of 80 miles in a direct line from the Pacific (alt. 7,550 ft.); Vincocaya is at an altitude of 14,360 ft. above sea-level, on a desert plateau near the crest of the Western Cordillera; and Puno (12,540 ft.) is on the western shore of Lake Titicaca. Pampa Central is near the central western part of the Desert of Atacama. The published observations comprise 29 tables, and furnish by all means the most complete set of meteorological records yet published for Peru. The observations made during 1888-1890 were preliminary. They were carried out under great difficulties, and inevitably contain inaccuracies. Since then the system of meteorological work carried on by the Harvard College Observatory in Peru has been considerably extended and much improved. Among the stations now in operation is one on the Misti, 19,200 ft. above sea-level, the highest meteorological station in the world, and one at Cuzco, the ancient capital of the Incas. *Peruvian Meteorology* is a very notable contribution to our knowledge of the climatic conditions of South America, and the succeeding volumes will be awaited with no less interest than this preliminary publication.

CLIMATE AND TRANSPORTATION BY SEA.—Russia has long felt the great handicap put upon her trade with the outside world by the freezing of her ports during the rigorous winters of the northern latitudes in which her lot is cast. The effort to overcome this handicap, due to climatic conditions, has led to the building of huge ice-breakers, which have proved very successful in keeping open certain of the important Russian and Siberian harbors during the winter. Another step which Russia has recently taken also furnishes a striking example of the way in which climatic conditions, directly or indirectly, control travel and transportation, and thus notably affect the development of countries and of peoples. Russia has not been satisfied with the work of the ice-breakers alone; she has also desired a northern port which shall be free from ice because nature has made it so. This wish for an ice-free port has lately been gratified. Within a few weeks Catherine Harbor, a new port, has been opened on the Lapland coast. It is at the extreme north

of the Russian possessions, and is kept open during the winter by the warm waters of the Gulf Stream Drift, while more southern ports are closed by ice. The famous *Ermak* and other ice-breakers are to ply between Catherine Harbor and the mouths of the Obi and Yenesei, thus keeping the sea route open. The new port will probably prove of great importance as a depot for the hide trade with Siberia, and will lead to the development of a large timber area in its vicinity.